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EXAMINER	
FELAU, LISEDA	

ART UNIT	PAPER NUMBER
1791	

MAIL DATE	DELIVERY MODE
10/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,530	GALIMBERTI ET AL.	
	Examiner	Art Unit	
	LISEDA FELAU	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *47-84* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *47-84* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 47-84 in the reply filed on June 24, 2008 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election **without** traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 47-49, 52-54, 57, 59-66, 68, 70-75, 82, and 83 are rejected under 35 U.S.C. 102(b) as being anticipated by BARNES et al. (US 5,374,387).

Regarding claim 47, BARNES et al. teaches a process for continuously producing an elastomeric composition comprising (a process for continuously producing an elastomeric composition) metering a polymeric mixture and reinforcing agents in a mixing zone of the extruder then subjecting the mixture to mixing and shearing stresses at programmed shear rates (metering and feeding at least one elastomer and at least one filler into at least one extruder) [col.3: 17-24; col.6: 31-55]. BARNES et al. further teaches that the masticated polymer mixture is then continuously passed from the first zone 12 into the second zone 14 in which individually metered mass flow streams of

reinforcing agents 26 and processing aids 28 are sequentially introduced into the masticated polymer mixture (mixing and dispersing he at least one filler into the at least one elastomer using the at least one extruder) [Figures 1-2; col.7: 24-30]. BARNES teaches that the process provides a static working volume of material in the batch process which provides static mixing dynamics (passing the elastomeric composition that results through at least one static mixer – BARNES' teachings suggest that the shear mixers used are static mixers [col.10: 51-56].

Regarding claim 48, BARNES et al. teaches that the completely formulated and mixed material is then passed into the delivery zone 20 wherein the material forming die is placed (discharging the resulting elastomeric composition from the at least one extruder wherein the discharging is carried out before passing the resulting elastomeric composition) [col.8: 29-32].

Regarding claim 49, BARNES teaches that the elastomeric composition is then subjected to rapid cooling (cooling the resulting composition discharged from the at least one extruder) [col.8: 37-38].

Regarding claims 52 and 65, BARNES teaches that the masticated polymer mixture is then continuously passed from the first zone 12 into the second zone 14 in which individually metered mass flow streams of reinforcing agents 26 and processing aids 28 are sequentially introduced into the masticated polymer mixture (metering and feeding at least one minor ingredient into at least one extruder) [Figures 1-2; col.7: 24-30].

Regarding claim 53, BARNES teaches that the resulting polymer/filler-oil mixture or mass-flow composition is then subjected to mixing and shearing stresses

(mixing and dispersing the at least one minor ingredient into the at least one elastomer using the at least one extruder)[col.7: 32-34].

Regarding claims 54 and 66, BARNES teaches that the reinforcing agents may include fillers like adhesion promoters (wherein the at least one minor ingredient is selected from: adhesion promoters) [col.4:18-27].

Regarding claims 57 and 68, BARNES teaches that the component particulate materials (at least one minor ingredient) must have consistent particle size distribution (in the form of subdivided product) [col.5: 26-28].

Regarding claims 59, 62, 70 and 73, BARNES teachings of a masticated polymer mixture or admixture (masterbatch) containing an elastomer and a filler passing through different processing zones (wherein the at least one minor ingredient is in a form of a masterbatch-masterbatch contains a minor ingredient thus it is the same as saying the minor ingredient is in the form of a masterbatch) [process as described in col.6, line 31-col.8, line 39].

Regarding claims 60, 63, 71, and 74, BARNES teaches that the component particulate materials must have particle size distributions consistent with the clearances between the rotating twin-screw elements of the extruder and that the particulate size must be sufficiently small to be distributed quickly into the mass of material being mixed (masterbatch is obtained in the form of a subdivided product) [col.5: 26-32].

Regarding claims 61, 64, 72, and 75, the teachings as referenced in claims 60, 63, 71, and 74 applies. Furthermore, BARNES teaches that the resulting polymer/filler-oil mixture or mass-flow composition is then subjected to mixing and shearing stresses

(accumulating an amount of the subdivided product and stirring the accumulated amount) [col.7: 32-34].

Regarding claims 82 and 83, the teachings as referenced in claim 47 apply. As per claims 82 and 83, BARNES teaches that the resultant mixture is subjected to mixing and shearing stresses then passed continuously into the forth zone and delivery zone (discharging the elastomeric composition from the at least one static mixer) [col.7, 59-68 to col. 8, 23-35]. The high shearing mixers maintain static mixing dynamics [col.10:54-56].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claim 50, 51, 55, 56, 67, 76-81 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over BARNES et al. (US 5,374,387) as applied to claims 47-49, 52-54, 57, 59-66, 68, 70-75, 82, and 83 above.

Regarding claims 50, 51, 55, 56 and 67, the teachings as applied in claims 47 and 49 apply. BARNES is silent to point out temperature ranges as required in claims 50 and 51. It would have been obvious to one of ordinary skill in the art to use and modify the teachings of BARNES by optimizing as desired a process control like temperature such that the elastomeric composition is cooled down at a temperature less than or equal to the ranges as specified in claims 50 and 51 as desired by one of the ordinary skill in the art in order to thoroughly cool and solidify the hot processed elastomeric composition thus allowing it to be deposited in or on an appropriate storage medium and/or be used in further processes. As per claims 55, 56 and 67, it would have been obvious to one of ordinary skill in the art to use fillers pertaining to either temperature sensitive or to non temperature sensitive categories in order to produce an elastomeric composition with desired endurance properties that can be used in many applications where different ranges of temperature affect the state like solidity of the product.

Regarding claim 76, the teachings as referenced in claims 60, 63, 71, and 74. BARNES is silent to point out the form which the elastomeric composition is obtained once discharged from the extruder i.e. granular form or extruded as a film; however, at the time of invention it would have been obvious to one of ordinary skill in the art to use and modify the teachings as taught by BARNES so that the discharged resulting elastomeric composition is further processed through additional post-processing steps such as to obtain a subdivided product i.e. pellets or granules. The shape and form which

the elastomeric composition product is obtained i.e. whether is particles, granules, pellets or film(s) is a process control that can be modified as desired i.e. use of a variety of die heads and post-processing cutting means to granulize the composition.

Regarding claim 77, BARNES teaches that the completely formulated and mixed material is passed into the delivery zone wherein the material forming die is placed. An appropriate exit die adapter is positioned where the density of the mixture is increased and the mixture is forced through a forming surface appropriate to the desired application for the elastomeric composition (wherein obtaining the subdivided product is carried out at a discharge opening of the at least one extruder) [col.8: 29-35].

Regarding claim 78, BARNES teaches that the elastomeric composition is passed through the delivery zone wherein the material forming die is place, forced through a forming surface appropriate to desired application, then subjected to rapid cooling (cooling the resulting composition discharged from the at least one extruder; obtaining a product from the resulting elastomeric composition discharged from at least one extruder) [col.8: 33-38]. BARNES is silent to teach that the product is obtained as a subdivided product after cooling.

At the time of invention, it would have been obvious to one of ordinary skill in the art to modify the teachings of BARNES so that the discharged resulting elastomeric composition is further processed through additional post-processing steps such as to obtain a subdivided product i.e. pellets or granules. The shape and form which the elastomeric composition product is obtained i.e. whether is particles, granules, pellets or film(s) is a process control that can be modified as desired i.e. use of a variety of die heads and post-processing cutting means to granulize the composition. It would have

been obvious to granulate the elastomeric composition after cooling so that the composition is in the solid state which makes it easier for any cutting or granulating means to cut through the elastomeric product and make granules of the same size.

Regarding claim 79, the teachings as referenced in claims 60, 63, 71, and 74 applies. Furthermore, BARNES teaches that the resulting polymer/filler-oil mixture or mass-flow composition is then subjected to mixing and shearing stresses (accumulating an amount of the subdivided product and stirring the accumulated amount) [col.7: 32-34].

Regarding claims 80 and 81, the teachings as referenced in claims 47-49 applies. BARNES teaches of a masticated polymer mixture or admixture containing an elastomer and a filler passing through different processing zones [process as described in col.6, line 31- col.8, line 39]. Examiner further explains that the continuous process as taught by BARNES as described in col. 6: 31 through col.8: 39 reads on limitations as claimed in claims 80 and 81. A subdivided product is obtained from the resulting elastimeric composition after the admixture containing the polymer and filler is subjected to mixing and shearing stresses from the first mixing zone (obtaining subdivided product from the resulting elastomeric composition discharged from the at least one extruder). The resulting admixture goes through the rest of the mixing zones wherein more fillers and additives in particulate form are added to the admixture followed by more mixing and shearing stresses (accumulating an amount of the subdivided of subdivided product and stirring the accumulated amount).

The limitations "adding the at least one minor ingredient is carried out *before/after* accumulating an amount of the subdivided product and stirring" reads on the process of BARNES. BARNES teaches the combined materials comprising of polymers

24 and chemical modifiers said fillers are introduced at the beginning of the first mixing zone then subjected to mixing and shearing forces followed by continuously passed in the second zone (claim 80: adding the at least one minor ingredient is carried out *before* accumulating and stirring) [col.6: 32-40, 44-48; col.7: 24-28]. BARNES teaches that at the second zone, individually metered reinforcing agents and processing aids (minor ingredient) are sequentially added to the masticated mixture then subjected to mixing and shearing stresses (claim 81: adding at least one minor ingredient carried out *after* accumulating and stirring) [col.7:24-35].

BARNES is silent to point out the discharging means which transports the admixture from one mixing zone to the other i.e. as shown in Figure 1, by numbers 12, 14, 16 and 18. It would have been obvious to one of the ordinary skill in the art to modify the continuous process as taught by BARNES by using an extruder in order to transport and discharge the combined mixture from one mixing zone to another to ensure production of an elastomeric composition with improved uniform distribution of the raw materials i.e. fillers and reinforcers throughout a single unit mass or volume [col.1:38-49; col.3: 56-69].

Regarding claim 84, BARNES is silent to teach wherein discharging the elastomeric composition is carried out batchwise. At the time of invention, it would have been obvious to use the process as taught by BARNES and discharge the composition as taught by BARNES in batch form. Discharging in batches or in a continuous manner is a process control that can be modified as desired by one of the ordinary skill while ensuring production of elastomeric composition with improved uniformity.

7. Claims 58 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over BARNES et al. (US 5,374,387) as applied to claims 47-49, 52-54, 57, 59-66, 68, 70-75, 82, and 83 above, and in further view of HALL et al. (3,984,509).

BARNES et al. teaches a continuous process for producing elastomeric composition as referenced in claim 47. BARNES et al. is silent to teach that the minor ingredient said fillers and/or additives is in a form of a powder.

HALL et al. teaches a continuous extrusion process for mixtures of elastomer particles and resin particles to produce elastomeric film [abstract] wherein many of the fillers and pigments may be in powdered form [col.3: 12-17]. At the time of invention, it would have been obvious to one of ordinary skill in the art to use the teachings of fillers in the powder form added in elastomeric mixtures producing an elastomeric compositon as taught by HALL in the process as taught by BARNES in order to prevent elastomeric particles from agglomerating prior to blending with the resin particles and other materials [HALL: col. 3, lines 12-17].

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LISEDA FELAU whose telephone number is (571)270-5128. The examiner can normally be reached on Monday thru Thursday 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LF

/Christina Johnson/

Supervisory Patent Examiner, Art Unit 1791